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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/813,740	03/21/2001	Scott Lewis Strong	DP-301465	3402

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EXAMINER

NGUYEN, TRAN N

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 09/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/813,740

Applicant(s)

STRONG ET AL.

Examiner

Tran N. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 02 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-9, 12-15 and 17-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-9, 12-15 and 17-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, *the at least one of plurality of wave structures is distinct from a remainder of the wave structures* (as in claim 12) and a *damping material positioned in the groove* (as in claims 7-9) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

1. The disclosure is objected to because of the following: the specification does not provide any support for the claimed features of the *at least one of plurality of wave structures is distinct from a remainder of the wave structures* (as in claim 12).

Appropriate correction is required. No new matter should be entered.

If the applicant believes that the Examiner has overlooked the spec., where the above subject matter is discussed, kindly point out the exact area, i.e., page and line numbers, thereof.

Claim Rejections - 35 USC § 112

2. **Claims 7-9 and 19** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 7-9, “damping material” is indefinite because it is unclear. In light of the spec., it is understood as “vibration damping material”.

In claim 19, “said body” lacks antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1-3, 5, 24** are rejected under 35 U.S.C. 102(b) as being fully anticipated by **Norton et al** (US 2632861).

Norton discloses a motor comprising: a housing having radially disposed groove (10); a stator and at least one wavy tolerance band ((13) figs 7) acting as a radial spring element positioned between the housing and the stator core.

4. **Claims 1 and 24** are rejected under 35 U.S.C. 102(b) as being fully anticipated by **Dunfield et al** (US 5619389).

Norton discloses a motor comprising: a housing (12) having radially disposed groove (not pictorially labeled, fig2); a stator and at least one wavy tolerance band (80)

acting as a radial spring element positioned between the housing and the stator core (col 4 lines 60-col 5 line 7).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 7 and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Norton, as applied in the rejection against the base claims, and further in view of Ikegami et al (US 6249066).

Norton substantially discloses the claimed invention, except for the additional damping material, particularly rubber, positioned in the groove.

Ikegami, however, teaches that in place of the friction reducing means or in addition to the friction reducing means, vibration absorbing members (not shown) such as resilient members or low resiliency rubbers may be interposed between the surfaces of the internally fitted member 103a and the bracket 106a that contact each other and between the surfaces of the internally fitted member 103b and the bracket 106b that contact each other.

The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, ***the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.*** See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Those skilled in the art would realize that the Ikegami's importance teaching is to provide rubber material between two contacting surfaces of two structures that contact one another for reducing vibration. In this instant case, the spring band and the groove are two structures that contact one another.

Therefore, by applying the Ikegami's teaching, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide rubber material as vibration damping material between two contacting surfaces of respective spring band and the groove in this instant case. Doing so would enable a reduction in vibration.

6. **Claims 7 and 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Norton, as applied in the rejection against the base claims, and further in view of Ota (JP 404251542).

By the same rejecting reasoning as the rejection against claims 7 and 9, however, Ota teaches the use of grease filled in the recesses to reduce vibration. Therefore, by applying the Ikegami's teaching, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide grease as vibration damping material between two contacting surfaces of respective spring band and the groove in this instant case. Doing so would enable a reduction in vibration.

7. **Claims 4, 6, 12-15, 17-23 and 25-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Norton, or Dunfield, as applied in the rejection against the base claims, and further in view of level of ordinary skills of a worker in the art.

The Prior-art as applied in the 102 (b) rejection discloses the claimed invention, except for the added limitations of the above listed claims.

Regarding the material of the tolerance, as in claims 4, 22 and 23, Norton discloses the spring element is a thin strip of suitable spring metal (col 2 lines 42+). Thus, those skilled in the art would realize that selecting steel material as spring metal is a matter of engineering design choice. Alternately, Dunfield discloses the spring element can be made of rubber or plastic (which are generally known as electrometric material) (col 4 lines 64+). Furthermore, as admitted by the applicant "[A]ny suitable material having properties generating a spring rate capable of retaining the stator (20) in housing (16) could be used" (Application Spec, page6).

This is an admission that selecting a suitable material is only a matter of engineering design choice.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select a suitable material, such as steel as electrometric material, or for the tolerance band, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416 (emphasis added).

Regarding the shape of the tolerance band, as recited in claims 12-21, Norton discloses a wavy tolerance band in general (13 of fig 7). Those skilled in the art would realize that the importance of Norton's teaching is to provide a wavy spring band provide the resilient properties for radial support and vibration damping between the housing and the stator. Applying this essential teaching, it would have been obvious to an artisan to change size and shape of the wave structures of the spring element band. Doing so would require level of ordinary mechanical skills in the art. Furthermore, as admitted by the applicant "[T]he number, size and shape (flat curves, lenticular, circular, etc.) of the wave (32) could be easily altered for a given application to provide any desired holding force" and "[T]he specific dimensions of the tolerance band (26) would heavily depend on the application (of the motor)" (Application Spec, page6). This is an admission that changes size and shape of the spring element is only a matter of engineering design choice based upon a particular industrial application of the motor.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the prior-art tolerance wavy band's wave configuration because a change in size or shape is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955) (emphasis added).

Regarding claim 25, the spring element is centered along a length of the stator. Norton's figs1, 5-6, and alternately Dunfield's fig 2, individually shows the spring element being located about the centered of the stator core. However, neither refs discusses in detail the location of the spring element. Nevertheless, those skilled in the art would understand that the spring element is for supporting the radial force of the stator and damping the generated vibration therebetween, it

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would have been obvious to one having ordinary skill in the art at the time the invention was made to rearrange the spring element to be centered along a length of the stator because this would ensure the balancing of the stator's weight. Furthermore, since the applicant fails to provide any advantage(s) or any enhance effect of the spring to be at the centered of the stator's length, but simply states that "[I]n a preferred embodiment, the band is centered along the length of the stator (20)", it is understood as re-arranging the location of the spring with respect to the length of the stator is a matter of engineering design choice.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to rearrange the spring in either Norton's Dunfield's motor so that the spring is located at the center of the stator's length. Doing so would require only level of ordinary skills in the art because it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Regarding claim 26, it would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the spring to provide a radial force equivalent to that provided by the press fit interference of about 0.002 inches, because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding the housing is made of aluminum, as in claim 6, motor's housing is made of aluminum is well known in the art. Besides, selecting aluminum as the suitable material for the motor's housing would provide a lightweight and low cost housing for the motor.

it would have been obvious to one having ordinary skill in the art at the time the invention was made to select a suitable material, such as steel as electrometric material, or for the vibration-tolerance band, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416 (emphasis added).


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Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N Nguyen whose telephone number is (703) 308-1639. The examiner can normally be reached on M-F 6:00AM-2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703)-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3431 for regular communications and (703)-395-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-1782.

A handwritten signature in black ink, appearing to read 'Tran Nguyen', is written over the printed name.

TRAN NGUYEN

PRIMARY PATENT EXAMINER

TC-2800